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# Hepatitis C

## Frequently Asked Questions

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### 1. What is Hepatitis C?

Hepatitis C is an infectious liver disease caused by the hepatitis C virus (HCV). HCV belongs to the *Hepacivirus* genus of the *Flaviviridae* family. HCV was discovered in 1989 as an outcome from investigating non-A and non-B hepatitis cases. Hepatitis C viral infection can either be “acute” or “chronic”. Acute hepatitis C infection is a short illness that manifests within six months post exposure to the HCV. Eighty five percent of acute infections progress into chronic hepatitis C. Chronic hepatitis C infection is a long term illness whereby the virus remains in the patient’s body.

### 2. Who can get Hepatitis C?

There are some population groups that are at increased risk of HCV infection. These include people who receive infected blood, blood products or organs (before 1992), people exposed to sharps and needle injury, people who inject drugs, people who have kidney failure and go through hemodialysis for long periods, and people who have piercings and tattoos on their bodies, people infected with human immunodeficiency virus (HIV) and babies born to infected mothers. People also at risk are those with multiple sex partners who have sexually transmitted diseases, men who have sex with men, and people who share personal items such as toothbrushes, razors and combs that were in contact with blood of HCV infected person.

### 3. Where does Hepatitis C occur in South Africa?

Hepatitis C infection can be found throughout South Africa and not limited to any particular province. Although nationwide prevalence is not known, the estimated prevalence is 0.4 to 1.7% of the population. In 2013, the number of HCV infected people in South Africa was estimated around 300 000, with about 1600 chronic cases contributing to hepatocellular carcinoma (liver cancer).

### 4. How is Hepatitis C transmitted?

HCV is a bloodborne pathogen. This means that one gets infected when blood from an infected person enters the body of a person who is not infected. It is most commonly transmitted through injections using shared equipment that was used by an infected person, through transfusion of unscreened blood, blood products or organs donated by an infected person, through use of inadequately sterilized medical equipment that was used on infected

persons, through accidental sticks with needles or sharps that were used on infected persons. Other modes of transmission that are less common include mother-to-child infection, unprotected sexual activities with an infected person, body piercing and tattooing with unsterilized tools that were used on infected persons, and sharing personal care items such as toothbrush and razors that belong to an infected person.

## 5. **How does Hepatitis C affect animals?**

HCV is not carried by animals or insects. Human beings are the only hosts for HCV.

## 6. **What are the signs and symptoms of Hepatitis C in humans?**

Both acute and chronic hepatitis C can be either “symptomatic” or “asymptomatic”. Approximately, 85 to 90% of acute hepatitis C infections are asymptomatic. Those who are acutely symptomatic, develop symptoms within 6 to 7 weeks. However, this can range from 2 weeks to 6 months after exposure. Symptoms of acute HCV infection include nausea or vomiting, loss of appetite, jaundice (yellow colour in the eyes or skin) fatigue (tiredness), pain in the right upper region of the abdomen, malaise (feeling of unease/discomfort), dark urine, and grey-coloured stool. Approximately, 25 to 52% of acutely symptomatic HCV infected persons will have a spontaneous clearance of the virus and the remainder will progress to chronic hepatitis C. In addition, 85 to 90% of non-symptomatic persons will also develop chronic hepatitis C and the remainder have spontaneous clearance of the virus through a strong immune response.

The risk factors for progression to chronic hepatitis C include alcohol consumption, being of male gender, being of the age of more than 40 years, being co-infected with HIV/Hepatitis B. Most chronic hepatitis C patients are asymptomatic. Approximately 20% of chronic hepatitis C patients may have their liver damaged and losing function due to scarring by the viral infection within 1 to 30 years of exposure. This condition is referred to as cirrhosis. At least half of patients with cirrhosis will present with inflammation of the abdominal region due to abnormal accumulation of fluids. Furthermore, cirrhosis is a risk factor for liver cancer referred to as hepatocellular carcinoma (HCC). Some patients may further develop extra-hepatic conditions that may involve renal, endocrine, dermatological, haematological and/ or rheumatological systems.

## **How is Hepatitis C diagnosed?**

There are two categories of tests that are used to diagnose hepatitis C, namely serological assays and molecular assays. Serological assays are screening tests for antibody to HCV after exposure to the virus. Antibodies can be detected from the blood of an infected person within 4-10 weeks after infection. Should the antibody test be positive, the next set of molecular tests is performed to confirm diagnosis (qualitative HCV PCR), quantify (quantitative HCV viral load), and characterise (genotyping) the HCV within an infected patient. HCV antibody test cannot indicate whether the person is acutely or chronically infected and the test will not indicate whether the person has the virus. Qualitative/quantitative molecular tests can however diagnose whether the virus is present and how much of virus is present. HCV genotyping is recommended for patients who are considered for antiviral therapy as it guides decision on the type of treatment. Majority of patients, who are diagnosed with chronic

hepatitis C are required to have liver biopsy done. Histology tests are done on liver biopsy tissue to stage the liver disease if it has developed already and to advise prognosis.

## 7. **How is Hepatitis C treated?**

Some persons have strong immune system that spontaneously clears out the virus. In addition, some persons with chronic HCV infection may not develop liver damage. Usually people with hepatitis C do not know that they have the virus as many may not show symptoms. Many are diagnosed only when they have long-term chronic infection. Early diagnosis and treatment of acute HCV can lead to improved viral clearance rates and prevention of chronic hepatitis C. Although, the intended outcome for hepatitis C treatment is cure and prevention of further clinical complications, the success rate of pegylated interferon and ribavirin for hepatitis C was sub-optimal. Today, better (but pricier) direct acting antiviral (DAAs) drugs such as sofosbuvir, and daclatasvir with/without ribavirin can be used with high cure-rates of 95%. However, these drugs are yet to be registered for use in the South Africa. The oral DAAs have to be taken for 12-24 weeks. Routine check-ups are necessary to monitor how the treatment is working and how healthy the liver is.

## 8. **How can Hepatitis C be prevented?**

There is no hepatitis C vaccine available due to changes in the nature of the virus. Primary prevention of HCV infection depends entirely on reduced risks to viral exposure among population groups that are at increased risk. The prevention measures include safe handling and disposal of needles and sharps, use of adequately sterilized equipment for people who inject drugs, screening of donated blood, blood products and organs for hepatitis C before transplantation, consistent use of condom, and adequate training of health personnel to practice sterile techniques all the time. It is important to reduce risks to prevent re-infection too.

## 9. **Where can I find out more information**

Guidelines and other useful resources are available on the NICD website: [www.nicd.ac.za](http://www.nicd.ac.za)

Additional information on hepatitis C is available on the following website references:

### **For the public:**

- U.S. Centers for Disease Control and Prevention: Hepatitis C Information [www.cdc.gov/hepatitis/hcv/cfaq.htm](http://www.cdc.gov/hepatitis/hcv/cfaq.htm)
- World Health Organization Fact sheet on hepatitis C: <http://www.who.int/mediacentre/factsheets/fs164/en/>

### **For Healthcare Workers:**

- Contact the NICD hotline (+27 82 883 9920) after hours and in emergency situations
- World Health Organization: Guidelines for the screening, care and treatment of persons with chronic hepatitis C infection. Updated version, April 2016 <http://www.who.int/hepatitis/publications/hepatitis-c-guidelines-2016/en/>

For more information: contact the Centre for Emerging and Zoonotic Diseases

- Medical / clinical related queries: contact the NICD Hotline +27 82 883 9920 (for use by healthcare professionals only)
- Laboratory related queries:

- CVI laboratory: +27113866347/ +27113866343/+27113866536
- Results enquiries:
  - NICD Specimen Receiving Laboratory: +27 11 386 6404